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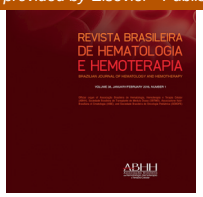

Scientific Comment

Comment on: "Oral health-related quality of life in children and teens with sickle cell disease"☆

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Sickle cell disease (SCD) is an inherited red blood cell disorder, characterized by chronic hemolysis, vaso-occlusive complications and progressive multi-organ damage, with major impact on the patients' life expectancy and quality of life.[1,2] The incidence of SCD is estimated as more than 300 000 new cases worldwide per year.[3] The estimated incidence of SCD in Brazil is 3500 new cases per year.[4]

SCD presents important maxillofacial features. Hypoxia related to SCD has been associated with osteomyelitis of the jaws, particularly the mandible. Neuropathies of the mental nerve due to osteomyelitis of the mandible cause numbness in the lower lip and chin. Additionally, a diminished blood supply to teeth may cause necrosis of the dental pulp. Bone marrow hyperplasia may result in depression of the nasal bridge, midfacial overgrowth and malocclusion in this patient population. SCD has been associated with moderate to very severe malocclusion, with anterior tooth loss, anterior sparing, overjet, anterior crossbite and open bite.[5,6]

Despite the maxillofacial alterations, SCD has little influence on oral health and no influence on the incidence of dental decay[7–10] demonstrating that known risk factors for caries influence oral health more markedly than factors related to SCD.[11,12]

On the other hand, in SCD, alterations related to dental occlusion have a strong influence on the quality of life of many patients. In a study of SCD involving 35 five-year-old children and 36 adolescents of both genders aged between 12 and 18 years, the prevalence of malocclusion in the preschool children was 62.9%. The main malocclusions observed in this age group were Class II (37.1%), increased overjet (28.6%), reduced overbite (28.6%), and open bite (17.1%). All 12- to 18-year-old subjects had malocclusion, with the most prevalent types of malocclusion being maxillary overjet (63.9%) and maxillary misalignment (58.3%). It is noteworthy that the majority of adolescents (80.6%) had very severe or disabling malocclusions.[13]

In the current issue of the Revista Brasileira de Hematologia e Hemoterapia, Fernandes et al. present a study in which they investigated the influence of SCD, socioeconomic characteristics, and oral conditions on oral health-related quality of life (OHRQoL) of children and teens. The study demonstrated no significant difference in the negative impact on OHRQoL between SCD patients and the healthy control group. However, there was a greater negative impact due to malocclusion in adolescents with SCD compared to healthy controls.

This result has also been observed in other patient populations. It was shown that children and adolescents expect that orthodontic treatment will improve their dental appearance and quality of life.[14] According to Thiruventadam et al., children who sought orthodontic treatment had lower quality of life scores than those who never had or never sought orthodontic treatment.[15] The same observation was found by

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☆ See paper by Mazzola et al. in Rev Bras Hematol Hemoter. 2015;37(5):336–40.
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Kragt et al., who demonstrated a clear inverse association of malocclusion with patients' OHRQoL. These authors also showed the strength of the association was dependent on the age of the children and their cultural environment.[16]

According to the authors, the aesthetic factors that had strong relationships with the need for orthodontic treatment were: (1) crooked, crowded, or spaced teeth, (2) worries when speaking or smiling, (3) breath smell and halitosis, and (4) the desire to use braces in order to be like other people or for fashionable reasons.[17]

There is no doubt about the maxillofacial alterations in SCD patients and the importance of orthodontic treatment for quality of life. These studies highlight the need for a better understanding of the role and involvement of all dental specialties on the comprehensive treatment of the SCD patient population.

Conflicts of interest

The author declares no conflicts of interest.

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